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An investigation of the theoretical links between creativity and innovation in organizations

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Abstract

This paper has as a main purpose to explore the major links between creative behaviors and innovation in organizations. In fact, creative behaviors are considered as the most important factor to generate innovation. So as to investigate more profoundly on this topic, we first identified the most important definitions of the organizational creativity behaviors, in the meantime, we were able to tackle the main creativity standards and the relationship between creativity and the individual's social identity. Then, we pointed out the individual creativity and the group creativity and went into these two main typologies of organizational creativity, and in this frame; we then presented the model proposed by Woodman et al, (1993). After this, we studied the three-dimensional model proposed by Amabile (1988), which contains the 3 main dimensions of creativity that lead to innovation, namely: resources, skills and techniques, and finally motivation. Amabile's model led us to more understand how the intersection of the tree dimensions cited above could enhance creativity. Based on this, we were able to propose as a result a model linking creativity and innovation in organizations.

Through this paper, we intend to present to the organizations and the managers the specific aspects of creative behaviors that are crucial and important to attain innovation in organizations successfully.

Keywords: Creativity Behavior, Dimensions of Creativity, Innovation in organizations,

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Introduction

Organizations are constantly looking for strategies to promote the innovative activities of their employees, as they are critical to their competitiveness and success (Dominguez 2013). Organizational activities such as feedback and performance appraisal are essential internal elements to stimulate creativity at work (Shipton et al. 2006). To this is also added the componential theory of creativity, which considers the work environment as a fundamental component of the creative process (Amabile, 2012).

There is a vast literature on the factors that promote or inhibit creativity in an individual (Runco, 2004). In the literature review, individual creativity is generally seen as independent of and unrelated to group creativity. Individuals, as members of a particular group, can operate as individuals (Turner, 1991). Furthermore, almost all research on creativity - on individuals as well as groups - has the limitation of assuming that the researcher is able to judge the creativity or non-creativity of an individual or group (Csikszentmihalyi, 1994). The complexity of this assumption is that it obscures reality: "creativity" is a social appraisal in non-research contexts, rather than an objective property of creation that can be judged separately from its social context.

Innovation has been a key component for economic growth and business competitiveness in light of technological advances and the emergence of a globalized economy (European Commission, 2015). The European Commission (EC), on the other hand, has established the EU 2020 Innovation Indicator to measure the EU's performance in achieving the goals of the Europe 2020 strategy and its pilot program, the "Innovation Union." In addition, the European Commission has innovation policies in place and is involved in various initiatives to stimulate innovation in the European Union, including through the Framework Programs for Research and Development FP, such as Horizon 2020 and Horizon Europe 2021-2027 (European Commission, 2015). In the United States, the National Innovation Strategy emphasizes the important role of innovation in the country's economic growth and international competitiveness (The White House, 2015).

Novelty (uniqueness) and utility (meeting specific requirements) are two essential characteristics of creativity. Design performance, in particular, privileges uniqueness and is associated with specific conditions or fields of action (Doboli et al., 2015). Personal characteristics and environment play an important role in creativity performance. Studies related to creativity performance have received much attention in recent years. Knowledge,

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ability to understand, reasoning, memory, divergent thinking, and mental content have all been associated with creativity performance (Crilly & Cardoso, 2017).

The subject of this theoretical research is about the identification of the main links between creativity and innovation in organizations. Thus, our objective is to explore the literature of creativity and innovation concepts, and propose a theoretical model that can help to rise the managers' awareness about the main creativity behaviors that may increase innovation in organizations.

In this sense, our theoretical research is set in 3 parts. In the first part, we will present the different definitions related to organizational creativity behaviors, as well as their main standards, factors and perspectives. Then, we will present in the second part the two major typologies of creativity namely the individual's creativity and the group creativity. Finally, we will present in the third part the dimensions of creativity and then propose a theoretical model that shows the links between creativity and innovation.

1- Definitions of organizational creativity behaviors

The classic premise is that the constitutive elements of invention, such as novelty, adequacy, originality and relevance, determine creativity (Stein, 1974). The limitation of this reasoning is that novelty and appropriateness are context-dependent, at least to some extent: what is original or acceptable in China may not be in the United States (Wetherell, 1987). Some researchers have even argued that creativity cannot be determined objectively (Amabile, 1996). Furthermore, unlike common belief, identification as a creative individual is based on a societal consensus regarding a person's contribution (Howe, 1999), which is influenced by various factors, including social rank (Kasof, 1995). Consequently, a detailed study of creativity must take into account the social mechanisms through which organizations and societies confirm originality and value outstanding achievements.

Organizational creativity is a concept that refers to a relatively untapped area of organizational conversion and innovation. Individuals collaborating in a complex social system are able to develop a useful and valued new product, service, technique, concept, or process. Thus, this is the commonly adopted definition of creativity or its outputs (Arieti, 1976) in an organizational environment. Organizational creativity is defined as a component of the broader field of innovation. The concept of "innovation" is then used to describe a subset of a much broader concept called "organizational transformation." While organizational transformation can lead

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to innovation, this is not always the case. Similarly, although creativity can result in the creation of a new product, process, service or concept applied through innovation (Amabile, 1988), innovation can also involve the adaptation of pre-established products or processes, as well as those generated outside the organization.

Systematic research on creativity activities in complex social systems could potentially improve organizational science. Individual and organizational creativity represents an important aspect of organizational change, which can be a solution to understanding the drivers of change and ultimately organizational performance and sustainability. In addition, organizational creativity research has the potential to connect diverse literatures and research traditions, particularly behavioral research on individual creativity and organizational research on innovation. West and Farr (1990) argued that bringing together different streams of study was a good approach.

1.1.Creativity standards

The various evaluations of creativity must be based on normative rules insofar as they are social judgments (Amabile, 1996). Moreover, creative performance can only be understood and evaluated according to the criteria of contemporary standards (Csikszentmihalyi, 1994). Standards are likely to influence creativity in a number of ways, including increasing the amount of creative output, guiding creative behavior, and defining the modes of creative expression (Woodman et al, 1993). The link between standards and innovation, on the other hand, is not always clear. Indeed, ignoring standards can sometimes lead to innovation (Amabile, 1996). Newton's mechanics, for example, was innovative in that it challenged accepted scientific beliefs. In order to be creative, however, products must adhere to normative standards. (Markus & Kitayama, 1991).

It should be noted that the question of whether and how individuals' inventions diverge from the predefined norms of the group is determined not only by the nature of those norms, but also by the type of value added (descriptive or prescriptive) to address the initial problem. The individual's relationship to the group also plays a major role. The social identity view (Turner et al, 1987) has considerable implications for the regulation of organizations (and their regulations) by their individuals. She has explored the effects of group norms on different group behaviors (Haslam, 2004), including the evaluation of creativity. However, it has not yet been applied to research on creativity behavior.

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1.2.Creativity behavior and its perspective of social identity

Individuals possess both a personal identity and a multitude of social identities, according to the basic concept of social identity. Social identity is a facet of self that is derived from membership in a social group and includes (endogenous) values and norms. Consistent with self-categorization theory (Turner et al., 1987), the degree to which a specific group is meaningful to a given member, as well as the group's level of comparative and normative fit with a given context, helps determine whether a personal or social identity can become meaningful (Oakes, 1987). Thus, the relevance and importance of the elements of an individual's identity depend on the importance of his or her personal situation. The societal values and standards contained in social identity are intrinsic - they provide an anchor for individuals' thoughts and actions - through the salient strength of social identity. Adherence to group norms is thus promoted by social identity relevance (Reicher, 1984). Personal identity relevance, on the other hand, can elicit a confrontation of one's self with group standards (Postmes, et al, 2001).

2- Main typologies of creativity

In this part, we will explore the main typologies of organizational creativity, namely individual creativity and group creativity, as well as their main factors.

2.1. The individual's creativity

Biographical and historical works on prominent scholars formed the main basis for early studies of creativity. The historiometric technique was inspired by Galton's Heireditary Genius, published in 1869. Surveys were then conducted to identify previous biographical research on prominent innovators. The methodological advances of Simonton (1975) furthered the advancement of this technique. Simonton (1986) studied 50 biographical features of 315 prominent individuals present in Goertzel's (1978) database. The findings indicated that, depending on the area of performance, certain sets of biographical characteristics had varying relationships with creative accomplishments. Numerous efforts to establish an empirically validated biographical inventory to predict creativity have been made through research conducted on the lives of famous artists (Schaefer & Anastasi, 1968). Nevertheless, the experimental coding of these measures leads to factorial complexity, almost complicating the theoretical understanding of the relationship between background data and creativity, and

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separate measures for different forms of creativity need to be developed (Barron & Harrington, 1981).

Singh (1986) has shown that biographical and personal factors are involved in predicting creativity. Thus, further research into the development of biographical repertoires would be beneficial in overcoming the inadequacies of our perception of situational constraints and various responses to situational elements (Barron & Harrington, 1981). Previous experiences have an effect on an individual's personality and cognitive faculties, and they certainly influence the individual's present situation, according to the interactionist paradigm (Woodman and Schoenfeldt, 1989).

- **Personal factors:** Previous experiences affect both an individual's personality and cognitive abilities, and they clearly influence where that individual is in the interactionist paradigm. According to Amabile (1988), R&D researchers have repeatedly identified perseverance, curiosity, drive, and intellectual sincerity as crucial factors for innovation. In addition, several studies have revealed that creative individuals possess an enormous capacity for self-control (Woodman and Schoenfeldt, 1989).
- **Cognitive factors:** Authors have identified a multitude of cognitive faculties related to creativity. For example, Carrol (1985) found that relational strength, expressive fluency, figurative fluency, ideational fluency, linguistic fluency, word fluency, ideational fluency, and originality were eight important factors that significantly influence creativity. Individuals who are independent of the field are able to analyze the relevant aspects of the problem without being distracted by the unimportant aspects, whereas field-dependent individuals struggle to disassociate from the less significant aspects. In his research on the structure of intelligence, Guilford (1977, 1984) considered flexibility, originality, fluency, and elaboration as cognitive mechanisms essential to diverse creativity. Guilford (1983) highlighted the role of transformative skills in creativity and suggested that an individual's tendency to use his or her intellectual abilities to achieve transformations was a universal aspect of cognitive style.
- **Intrinsic motivation:** Many experts believe that an internal motivational orientation is an essential element of creativity (Amabile, 1990). According to Simon (1967), the main characteristic of motivation is attention monitoring. The most recent research on motivation in organizations has focused on attentional self-regulation (Kanfer, 1990),

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and these experts have proposed that goals impact motivation through their influence on self-regulation mechanisms (Kanfer & Ackerman, 1989). In particular, appraisal and reward mechanisms are likely to have a negative impact on intrinsic motivation for various creative activities, insofar as they divert attention from the purely heuristic elements of the creative activity to the technical or regulatory dimensions of mission performance. Amabile (1979) demonstrated that upstream evaluation had a negative impact on creative performance but had no impact on technical qualities. Although an actual positive evaluation can be expected to promote creativity through its positive effects on self-efficacy, it may have a negative effect on future creative performance to the extent that it creates expectations of a future evaluation (Amabile, 1983). An individual's extrinsic rewards are based on his or her preferences. Financial reward for completing an assignment for which the individual has no choice may enhance creativity, however, when the individual receives a reward for agreeing to complete the assignment, creativity may be compromised in this case. Amabile (1983) observed that an individual's own interest and creativity are likely to be enhanced by determining how to complete a task. Thus, mission-related difficulties that restrict the choice of work strategies and methods or divert the individual's attention from the heuristic aspects of the work are likely to have a negative effect on creativity. This finding further demonstrates the critical role that contextual influences play in creative behavior. Mumford and Gustafson (1988) suggested that the motivational aspects of life stages may lead young adults to strive to match their desires and talents with the potentials and expectations of adulthood, in an effort to explain the empirical relationships between age and creative achievement. According to Mumford and Gustafson, the recasting of process-specific cognitive categories may lead young individuals to develop new and original conceptions of situations or, in terms of previously discussed cognitive characteristics, to investigate new causal relationships. Individuals in their 40s and 50s, on the other hand, are likely to be led to adapt or reorganize current paradigms. This reasoning may explain why young people have a greater proportion of creativity, while middle-aged adults have a proportion of progressive creative contributions. However, as Mumford and Gustafson (1988) note, the notion of knowledge is an essential component of creativity performance. Therefore, the age at which creative productions

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are made is likely to be influenced by the amount of domain-specific knowledge that is essential in a certain specialty area.

- **Knowledge:** Finally, researchers must consider the role of expertise and knowledge in an individual's ability to be creative. Amabile (1988) has pointed out that "domain skills" as well as "creativity skills" are essential to creativity. Both categories encompass the necessary knowledge, technical skills, and sense of creativity, as well as the intellectual and cognitive skills and personal characteristics related to creativity performance. The knowledge component "K" (Figure 1) represents the domain-related talents as advocated by Amabile; the skills with respect to creativity are very much related to our individual specificities namely personality (P) and cognitive characteristics (CS). In his exploration of the links between memory and creativity, Stein (1989) observed both positive and negative impacts of previous experience on creativity. Although previous experience may lead to a "functional constancy" that restricts individuals' ability to devise creative solutions, however, it seems difficult to think of creative behavior as "knowledgeless". This finding has been commonly accepted and for so long that the critical role of knowledge and information is in danger of being forgotten." "Invention represents little more than the new combination of images that have been previously accumulated and stored in memory." It is impossible to construct anything from nothing. "Who lays down no material can make no combination" (Sir Joshua Reynolds, 1732-1792).

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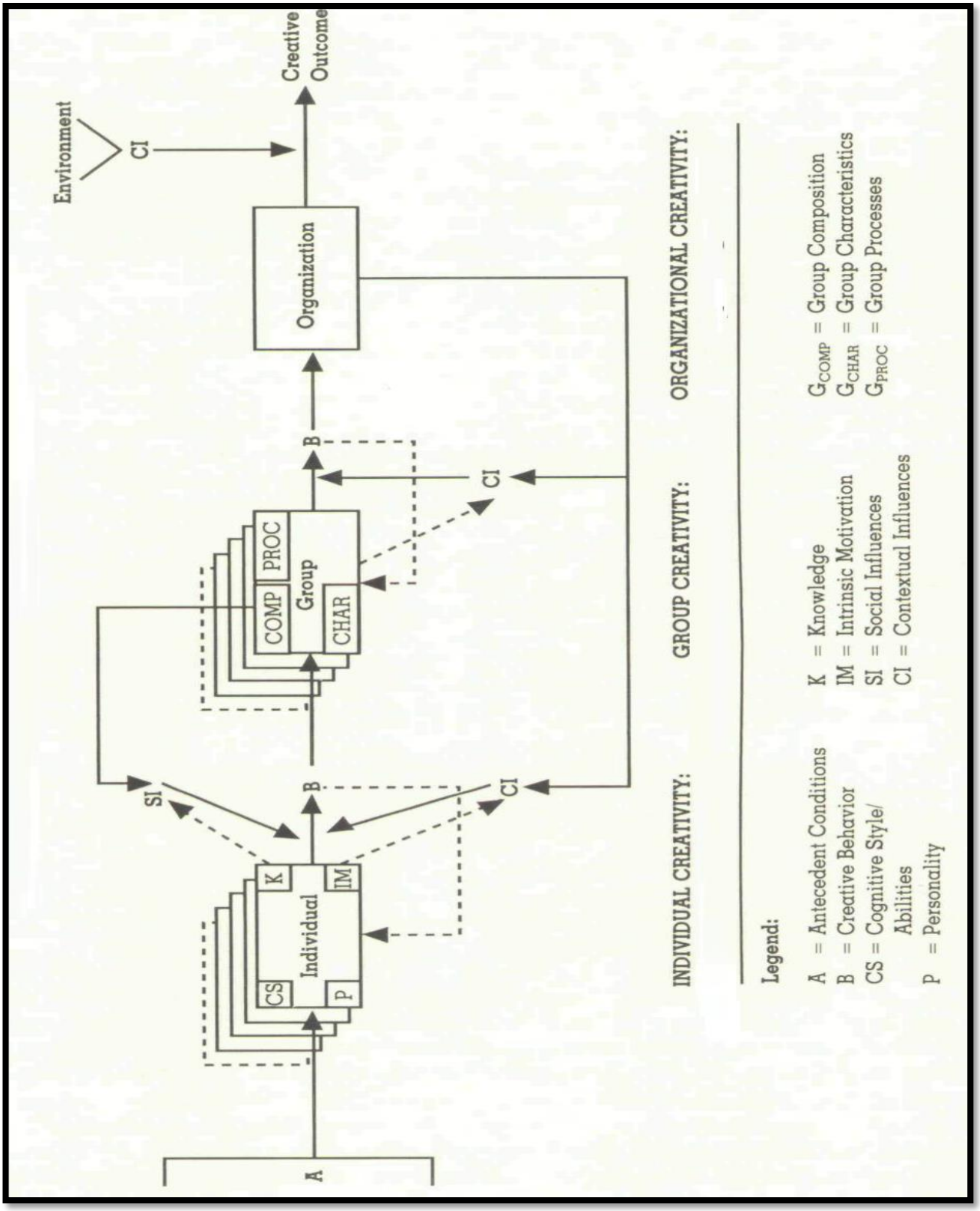
Figure 1: Organizational creativity model



Source: Woodman, R. W., Sawyer, J. E., & GriYn, R. W. (1993)

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2.2. Group creativity

Despite the fact that most observers agree that social factors can affect individual creativity, research on creativity in social contexts has been overshadowed by research on individual variation and antecedent conditions. Amabile (1983) observed during the development of a social psychological theory of creativity that little experimental social psychological research on creativity has been published in various social psychological journals. She did, however, claim "strong informal evidence that some social psychological aspects greatly impact individual creativity and productivity" (Amabile, 1983). This author pointed to research she and her colleagues have undertaken that provides evidence of the impact of social constraint on individual creativity. She found that (a) in the presence of other individuals with evaluative ability, creative performance is likely to be inhibited, (b) that the presentation of creative models can have a positive effect on early creative achievement, and (c) that models are able to enhance individuals' performance during the creativity testing phase, and only if the modeled behavior closely approximates the performance under examination (Amabile, 1983).

Many features of the process and of the relationships among the different actors in the work group are likely to create barriers comparable to the way the task is approached or the attention that group members give to the history of the task. Collective problem-solving approaches, such as brainstorming sessions, have been designed on the assumption that adherence to rules or standards that delimit the evaluation of ideas produced will help members build on each other's ideas, resulting in an increase in the number of original ideas. Later research (reviewed by Stein, 1974) found that individuals generate fewer ideas in such settings. The group determines the social environment in which creative behavior occurs. Hackman and Morris (1975) developed a very interesting paradigm for studying group interactions. These researchers outlined three synthetic factors to describe group influences on shared task performance. This categorization is undoubtedly consistent with an interactionist view of creativity. Group performance is affected by deficiencies in process, motivation, or coordination, according to Hackman and Morris (1975). Errors in work execution techniques result in losses to the process and mechanism. Failures in coordination and motivation can be caused by a failure to integrate the participation of group participants or by reward devices involving poor attitudes. On the other hand, social simplification or internal encouragement by other members could lead to motivational gains. Individuals could learn skills in managing group dynamics and problem solving to improve group performance (Bottger & Yetton, 1987). Interactive groups have been

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found to perform better than nominal groups in creativity exercises due to the ability of groups to give greater weight to the responses of the most talented individuals (Yetton & Bottger, 1982). The more interactive groups that included individuals with higher problem-solving skills were better able to weight the most relevant responses than groups of individuals with lower skills (Yetton & Bottger, 1983).

3- Creativity dimensions and the proposed theoretical model of creativity and innovation in organizations

Creativity is considered the foundation of innovation. For example, innovation in organizations is the result of the successful application of creative ideas within an organization. In the same sense as this description, the creative ideas in question may relate generally to new products, processes or services in a given sector of activity, or they may extend to new procedures or rules within the organization itself in a particular way. In the present context, the notion of implementation is widely used to encompass the parts of ideation as well as the concretization and implementation of the generated ideas. This designation corresponds to various existing definitions of innovation, although there are considerable differences. Indeed, some definitions of innovation are close to those of creativity; they focus on the generation of ideas rather than on their implementation. Drucker (1985) describes systematic innovation as "a planned and structured search for change", while Zaltman, Duncan and Holbeck (1973) define it as "any tangible concept, method or product that is perceived as new by the actors involved".

However, most recent definitions of the concept of innovation include the generation and implementation of new ideas. For example, Van de Ven (1986) states that "innovation is the invention and implementation of new ideas by individuals interacting with others in an institutional setting". Innovation, according to Kanter (1983), is "the process of realizing any new and original concept that responds to a problem. The conception, generation, adoption, and realization of innovative ideas, processes, goods, or services is termed innovation." These definitions (Van de Ven, 1986), as well as those of other researchers (Myers & Marquis, 1969), implicitly or explicitly incorporate the concept of creative ideas, carried out by a broad group of individuals.

In contrast to the traditional approach, the contemporary approach to creativity research postulates that any individual with ordinary abilities is likely to perform with a minimum of creativity in a particular area, but also, the social environment can have an impact on the

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frequency of creative behavior and on the level of creativity. In any specialty, creativity is about generating innovative and actionable ideas. To this end, any product or idea must be unique and innovative to qualify as assigned to creativity. However, the product or idea in question must be correct, useful and meet basic needs. In an organization, innovation is defined as the realization of innovative ideas. From this perspective, individual and collective creativity is a prerequisite for invention. Also, other factors play a role in the success of innovation, which may come from internal or external sources (as in the case of technology transfer). Thus, this section addresses intra-organizational creativity and innovation. It discusses the notion of creativity and its measures, its components and those of invention, and the importance of these processes in entrepreneurship, a model of organization where creativity is of paramount importance.

As mentioned earlier, no innovation can be achieved in an organization if individuals do not contribute unique ideas; these ideas need to be generated in order to be developed and realized. On the other hand, the impact of the individual and the organization is bidirectional. Creative individuals strongly influence the activities of the organization, but also, the events of the organization have a significant impact on said creative individuals. Once the main impacts on individual creativity and innovation in organizations have been identified, the next phase is to determine how these respective influences unfold.

The model of innovation in organizations is illustrated in Figure 2. This model is illustrative, containing the basics of the innovation process, an overview of the three factors that influence this process, and an indication of the main influencing factors. However, further research would be required to obtain a complete picture of the elements included in each component and a comprehensive accounting of the impacts mentioned. First, it should be noted that this model explicitly incorporates individual (or small group) creativity into the overall innovation process (bottom part of Figure 2). At this stage, individual creativity mainly influences the invention process (stage 3). An individual's ability to think creatively is essential to complete the innovation process, from ideation to final evaluation of the proposed solution. However, for any innovation process, we are concerned with the execution of a specific creative concept; step 3 is where this "target idea" emerges. Therefore, the purpose of this diagram is firstly to highlight the essential role that the creativity of individuals plays in the innovation process. Secondly, the aim is to allow the visualization of the impact of organizational variables on the components of individual creativity. The three main components of innovation in organizations

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are illustrated in the middle of Figure 2, which encompass all elements of the organization that may have an impact on the success of an innovation project. The elements included in these components can be identified based on previous research findings on specific organizational characteristics that influence individual creativity and other dimensions of the innovation process. All of these elements are necessary for any organization to develop creativity in its field. These components of the invention, instead of being categorized according to the functional units of the organization, encompass a combination of elements at multiple levels and functional areas of the organization. Moreover, each of these components has several impacts on the innovation process. According to Van de Ven (1986) this complexity is illustrated by the notion of a hologram, which is a structure that puts the important aspects of the whole into each of its parts. "The hologram metaphor implies that organizational design conceives of innovation as a process of integrating all of the important missions, organizational units and services, and resources required and indispensable for the management of an invention throughout its phases" (p. 599).

3.1. Motivation for creativity and innovation

This component takes into account the organization's overall vision of innovation. This approach must come mainly from the top management, i.e. the CEO and the governance bodies that accompany him. Moreover, the impact of line managers on the motivation of employees to innovate is very crucial. These managers are responsible for transmitting and understanding the attitudes of top management. Ideally, top management would conceive a future vision of the company based on innovation, and thus convey it in a way that is both clear and persuasive. According to existing research (Amabile et al, 1965), the most important elements of motivation to be reinforced are: the value placed on innovation, risk orientation, confidence in the potential of the staff, and an offensive innovation strategy.

3.2. Ressources for creativity and innovation

This major component is made up of all the elements available to the organization in order to accomplish the missions of its sector. The latter is the area in which innovation should be focused. Resources include a wide range of elements such as individuals with know-how and knowledge of the feasibility of carrying out a particular innovation, individuals with knowledge of relevant markets, individuals with relevant experience in the field (human resources), funds located in the area where the work is done (financial resources), production systems (infrastructure), market research resources, databases relevant to the field of work, and the

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ability to access resources. These resources are present in the various departments of a given organization, including finance, production (or equivalent), logistics, personnel, training, and organizational development, as well as in "creative" departments such as research and development. Because of its obviousness, the resources component has certainly received less attention from researchers than the management style aspects. In contrast, the importance of resources has been highlighted in research conducted by Amabile & Gryskiewicz (1987). In their research, sufficient resources were seen as the third most important level of creativity, while inadequate resources were seen as the sixth most important inhibitor.

3.3. Skills and techniques

This component encompasses management at both the departmental and project levels. The elements of this component are indeed those for which there is more research than for the two previous ones. It is important to have a good balance between freedom and constraint in the management style in order to foster individual creativity as well as other aspects of innovation (see Amabile & Gryskiewicz (1987) and the work of Andrews & Farris (1967) and King & West (1985)), a definition of objectives that is strict with respect to the overall results, but flexible with respect to the processes of progress towards these previously set objectives (Bailyn, 1985); participative management (Kanter, 1983); assignment of tasks in accordance with available skills (Amabile & Gryskiewicz, 1987); bottom-up, top-down and horizontal communication systems (Cummings, 1965); accurate, instantaneous and positive feedback on efforts made (Peters & Waterman, 1982); generous, equitable motivation and reward for effort and creativity (moral and financial, as well as intrinsic and flexible benefits such as autonomy in the performance of tasks, in working hours, in work methods, and in career development) (Ashford & Cummings, 1985); participatory decision-making, in the sense that the input of employees is important for crucial decisions; absence of complex management procedures and formalities (Kimberley, 1981); the exemplarity of managers (Kimberley, 1981); and the absence of unnecessary bureaucratic and hierarchical formalities; broad access to instruments of innovative conflict and problem solving; an absence of threatening evaluations and unnecessary competition (Kanter, 1983); and strong support and synergy between teams and departments in the organization (Amabile and Gryskiewicz, 1987).

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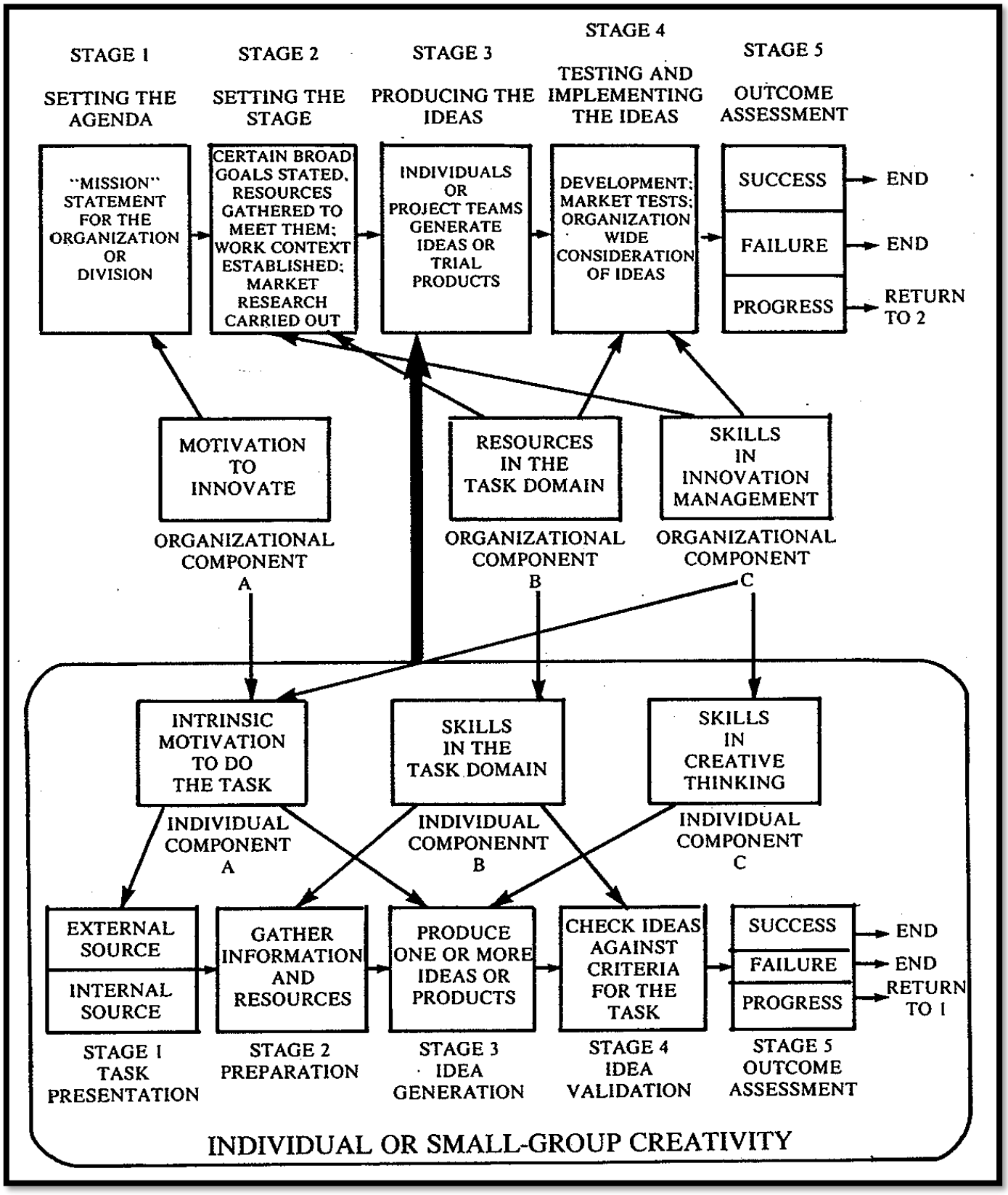
Figure 2: Model of Innovation in Organizations



Source: Amabile (1988)

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3.4. Creativity dimensions intersection and proposed model of creativity and innovation

The three components of innovation in organizations that we mentioned at the outset are perfectly equivalent to the elements of individual creativity. First of all, there is the "resources" component on the human and organizational levels; these are the resources available for creativity and therefore innovation in the specific field. The individual resources are also found in the skills and techniques component related to the specific domain; these are the skills in the said domain as well as the knowledge and know-how developed and the technical expertise.

However, these elements are not sufficient. Individuals, as well as organizations, can use them creatively or not, just as organizations can use them innovatively or not. Skills and techniques are the necessary assets for an individual's creative work and thus for the organization's innovative results. Without these skills, the individual will generate routine ideas that are void of creativity and originality. As a result, the organization will not be able to reach high thresholds in terms of innovation, either because of a lack of creative ideas from individuals or because of difficulties in realizing them. These fundamental methods are the skills related to creativity, as well as the ways of thinking, working and interacting with the environment that can lead to innovative and useful ideas for the individual. As far as the organization is concerned, the indispensable methods are skills in innovation management, management skills that favor creativity and the development and realization of innovative ideas. The strategies are based on the resources of the individuals and the organization.

Motivation is, on reflection, the most important of the three components, both for individuals and for the organization. It has been previously stated by researchers that while skills and creativity define what an individual is capable of doing, the presence or absence of intrinsic mission motivation determines what that individual actually accomplishes. The organization is no different. The resources needed in the business and the skills in innovation management foster creativity and therefore implicitly innovation. However, the passion for innovation, the foresight for the future and the risk-taking from the top management of the organization is the main gas pedal.

Figure 3 is an illustration of the three components related to individual creativity and innovation in organizations. As mentioned earlier, all three components are necessary, to varying degrees, for individual creativity and thus innovation in organizations. The higher the level of individual creativity or innovation, the higher the level of the three components proportionally. The most important finding is that creativity (and therefore innovation) is optimal when the three

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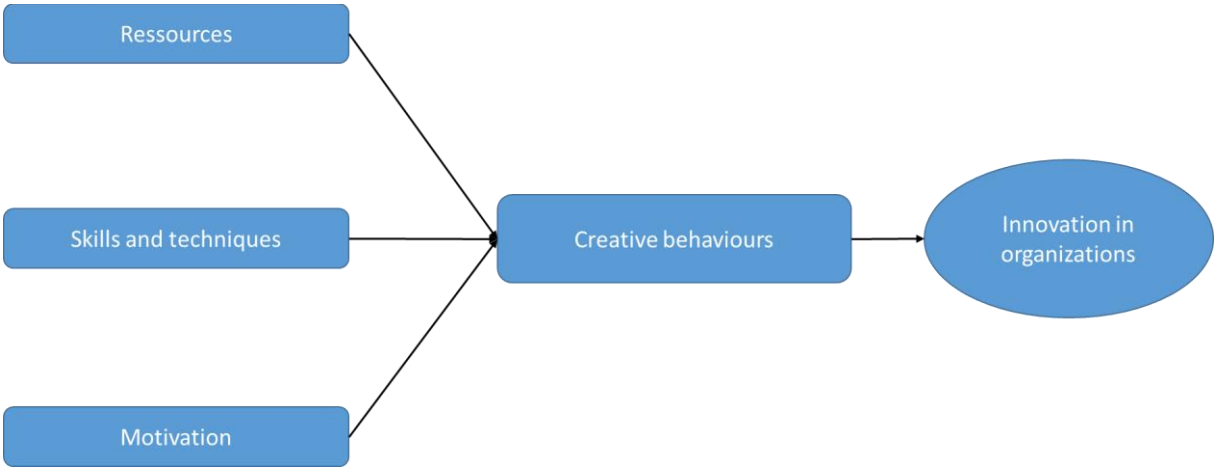
components converge. Indeed, this "creativity intersection" identifies the most favorable field for optimizing individual creativity and therefore innovation within the organization. Therefore, all three factors are crucial, both for the individual and for the organization. The higher the intersection between resources, skills and techniques, and motivation, the more optimal creativity and innovation are.

Figure 3: Proposed theoretical model of the dimensions of creativity and its impact on innovation



Source: Amabile (1988), Authors

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Conclusion

In sum, our research has allowed us to identify the great importance of creativity behaviors in the innovation process. Therefore, it is crucial for managers to establish fundamental mechanisms to stimulate and promote creative behaviors among employees, which are important for the two main typologies of creativity (individual and group levels).

Through the model proposed by Amabile (1988), as well as the model we have proposed, we have been able to identify and emphasize the three most important dimensions, namely resources (material, human and financial), skills and techniques, and motivation, in order to improve creativity behaviors and consequently innovation.

In the future research, it would be interesting to conduct exploratory studies in the Moroccan context, in order to test and readjust the model we have proposed according to the said context and its characteristics.

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